

REFERENCE 12

MEMORANDUM

DATE: April 3, 2014
TO: Division File
FROM: Lance Range, Environmental Protection Specialist, Illinois EPA *LJR*
SUBJECT: Calculation of the Area of West Ditch 1
SITE NUMBER: 1630505007
Fairmont City, Illinois
Old American Zinc Plant
Superfund/HRS

CALCULATION OF AREA OF WEST DITCH 1

On April 3, 2014, Illinois EPA personnel traveled to the Old American Zinc Plant in Fairmont City, Illinois in order to obtain an accurate area of contaminated soil located in West Ditch 1.

A desktop Geographic Information System (GIS) was used to aid in the location and dimensional analysis of the Old American Zinc Site. Specifically, GIS was used to evaluate dimensions of the site and site sources, as contaminated soils and sediments. GIS was also used to compare distances from contaminated samples to nearby wetlands. Sample locations were identified using Global Positioning System (GPS). These measurements, distances and population were determined using geographic system software.

The western and northwestern portion of the property is drained by West Ditch 1. West Ditch 1 runs along the western border of the property for approximately 1608 feet. This ditch continues across the northwestern corner of the property for an additional 688 feet where it exits the property. Surface water then flows for 762 feet in a north-northwesterly direction along 47th Street, then through a culvert beneath Collinsville Road, where they are discharged into the Old Cahokia Creek wetlands immediately north of the West Ditch Outfall (762 ft). This length was observed to be approximately 3058 feet in length. At each marked location, the bottom of West Ditch 1 was measured using a tape measure.

West Ditch 1 was measured using geographic information system software. Each width measurement was conducted at each of the following points within the West Ditch 1. The physical location of West Ditch 1 was added from Figure 4 of the Final Remedial Investigation

Report for Old American Zinc Plant (ENTACT 2009). Measurement locations were collected with a global positioning instrumentation.

Area of ditch = length of ditch multiplied by the width of ditch

Total length of ditch: 3058 feet

Width of ditch:

GPS Location Width at points:

WD-1 –	62 inches
WD-2 –	54 inches
WD-3 –	66 inches
WD-4 –	57 inches
WD-5 –	86 inches
WD-6 –	73 inches
WD -7 –	53 inches
WD -8 –	85 inches
WD-9 –	47 inches
WD-10 –	92 inches
WD -11 –	110 inches
WD-12 –	81 inches

Average width of sampling points: 67 inches or 5.5 feet

Area of ditch: 16,819 square feet (3058 feet X 5.5 feet)

Figure 9
Old American Zinc Plant
West Ditch 1 Width Measurement Locations



Illinois State Geological Survey. Prairie Research Institute. University of Illinois at Urbana-Champaign. Illinois Geospatial Data Clearing House. Access 2005 DOQQ files for Illinois by County/Universal Transverse Mercator (UTM) Zones 15 and 16, St. Clair, Monks Mound Quadrangle, SW section. <http://www.isgs.uiuc.edu/nsd/home/webdocs/doq05/county/stclair.html>. Accessed on June 15, 2015.

Final Remedial Investigation Report for the Old American Zinc Plant Plant Site. Fairmont City, Illinois. Revision 2, March 13, 2009. Prepared by ENTACT 1010 Executive Court, Westmont, Illinois. [4694 pages] (May need to split into different references)